



# PYTHON COURSE 02

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# Numbers

- Integers
- Floats
- Integers and Floats
- Underscores in Numbers
- Multiple Assignment
- Constants

# Integers

In Python, integers are zero, positive or negative whole numbers without a fractional part and having unlimited precision, e.g. 0, 100, -10. The followings are valid integer literals in Python.

You can add '+', subtract '-', multiply '\*', and divide '/' integers in Python.

→ 2 + 2  
    ◆ 4  
→ 8 - 4  
    ◆ 4  
→ 5 \* 5  
    ◆ 25  
→ 10 / 5  
    ◆ 2

```
1 print(3 ** 2)
2 print(3 ** 3)
3 print(10 ** 6)
```

9  
27  
1000000

```
1 print(2 + 3 * 4)
2 print((2 + 3) * 4)
```

14  
20

Note 1 . Integers can be binary, octal, and hexadecimal values.

Note 2 . All integer literals or variables are objects of the 'int' class. Use the 'type()' method to get the class name.

Note 3 . Leading zeros in non-zero integers are not allowed.

Note 4 . Python does not allow comma as number delimiter. Use underscore \_ as a delimiter instead.

Note 5 . A number having 0b with eight digits in the combination of 0 and 1 represent the binary numbers in Python.

Note 6 . A number having 0o or 0O as prefix represents an octal number

# Integers and Floats

When you divide any two numbers, even if they are integers that result in a whole number, you'll always get a float:

```
1 4 / 2
```

2.0

```
1 1 + 2.0
```

3.0

# Multiple Assignment

```
>>> x, y, z = 0, 1, 2
```

# Constants

In programming, the term constant refers to names representing values that don't change during a program's execution. Constants are a fundamental concept in programming, and Python developers use them in many cases. However, Python doesn't have a dedicated syntax for defining constants. In practice, Python constants are just variables that never change.

To prevent programmers from reassigning a name that's supposed to hold a constant, the Python community has adopted a naming convention: use uppercase letters. For every Pythonista, it's essential to know what constants are, as well as why and when to use them.

A 'constant' is like a variable whose value stays the same throughout the life of a program. Python doesn't have built-in constant types, but Python programmers use all capital letters to indicate a variable should be treated as a constant and never be changed

```
MAX_CONNECTIONS = 5000
```

When you want to treat a variable as a constant in your code, make the name of the variable all capital letters